

PATENT  
Docket No.: CX03001USU(02CXT0077D)  
10/611,400

AMENDMENTS

TO THE SPECIFICATION:

Please replace paragraph [005] on page 2 of the specification with the following amended paragraph:

[005] In the past, DBS service providers typically utilized a digital modulation scheme known as ~~Quadrature~~Quaternary Phase Shift Keying ("QPSK") to modulate their DBS signals. QPSK ~~allows~~allowed for low signal-to-noise ratios (known as "S/N" or "SNR") with relatively high throughput data communication between a broadcasting satellite and a DBS set-top module (i.e., a "set-top box") in the premises of a subscriber.

Please replace paragraph [010] on page 4 of the specification with the following amended paragraph:

[010] Unfortunately, switching transmission schemes will typically force established DBS subscribers to upgrade their reception equipment because the old QPSK set-top modules cannot decode the new 8-PSK Turbo Coded transmissions. Therefore, there is a need for a system that allows established DBS subscribers to ~~received~~receive the new 8-PSK Turbo Coded transmission with their old QPSK set-top modules (also known as a "legacy set-top module[']]").

Please replace paragraph [017] on page 5 of the specification with the following amended paragraph:

[017] FIG. 4 is a block diagram of an example implementation of the upconverter shown in FIG. 3.

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Please replace paragraph [018] on page 5 of the specification with the following amended paragraph:

[018] FIG. 5 is a block diagram of an example implementation of the upconverter shown in FIG. 3 utilizing a direct digital-to-analog converter ("DAC") approach.

Please replace paragraph [029] on pages 11 and 12 of the specification with the following amended paragraph:

[029] The Q-channel path may include the Upsampler 504 and a ~~Q-mixer~~Q-mixer 508. The outputs 510 of the I-mixer 506 and 512 of the Q-mixer 508 are both combined in combiner 514 and passed to a DAC 516. The ~~I-mixer~~I-mixer 506 and the ~~Q-mixer~~Q-mixer 508 may be driven in quadrature by 90 degree phase-shifter 518 or, alternatively, the quadrature I and Q inputs into the complex mixers 506 and 508 may be produced directly by a NCO without the use of the 90 degree phase-shifter ~~[[516]]~~518. The phase-shifter 518 is fed by sampling/clock frequency source 502 via a NCO 520, which may be optionally an internal (such as being on the same "die") or external component of the Upconverter 500. The DAC 516 and the Upsampler 504 may be clocked by a sampling/clock signal (" $F_s$ ") 522 produced by a timing circuit (not shown) having a phase-locked loop ("PLL") 524, which may be optionally an internal or external component of the Upconverter 500. The PLL ~~[[522]]~~524 is fed by sampling/clock frequency source 502.